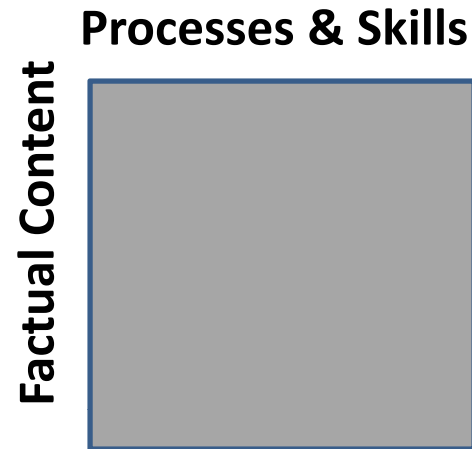




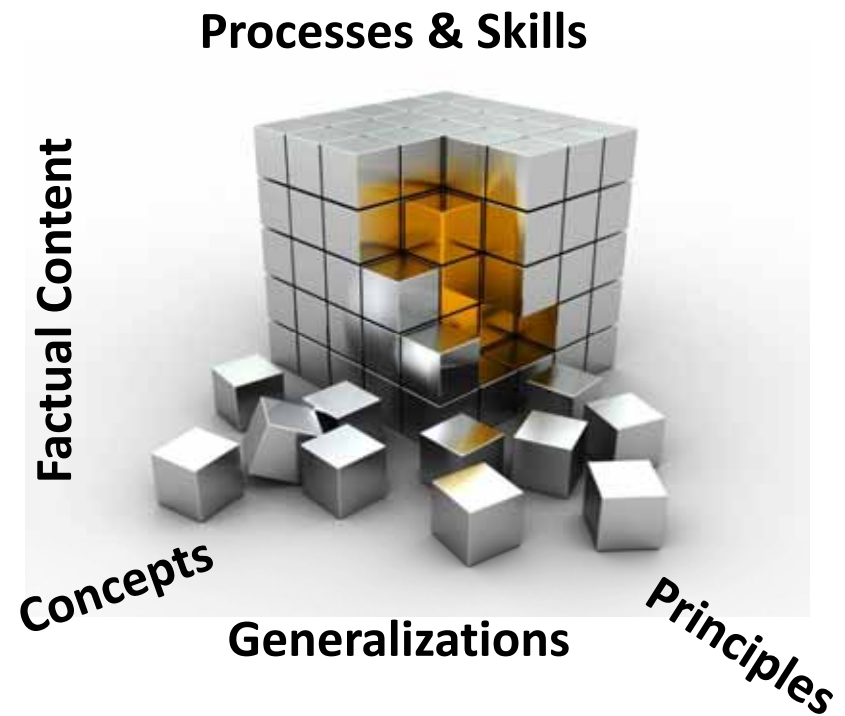
Concept-based Curriculum and Instruction

for the IB Classroom

Two Dimensional Curriculum Design



versus



Three Dimensional Curriculum Design

Two-dimensional *versus* Three-dimensional

Coverage-centered

“inch deep, mile wide”

Intellectually shallow

- lacks a conceptual focus to create a factual/conceptual brain synergy

Idea-centered

-facts provide a foundation to understand conceptual, transferable ideas.

Intellectual depth

-a “conceptual lens,” or focus, requires mental processing on the factual and conceptual levels—producing intellectual depth in thinking and understanding.



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Two-dimensional *versus* Three-dimensional

Fails to allow for transfer

- facts do not transfer
locked in time, place,
or situation.

Fails to meet the intellectual demands of the 21st century



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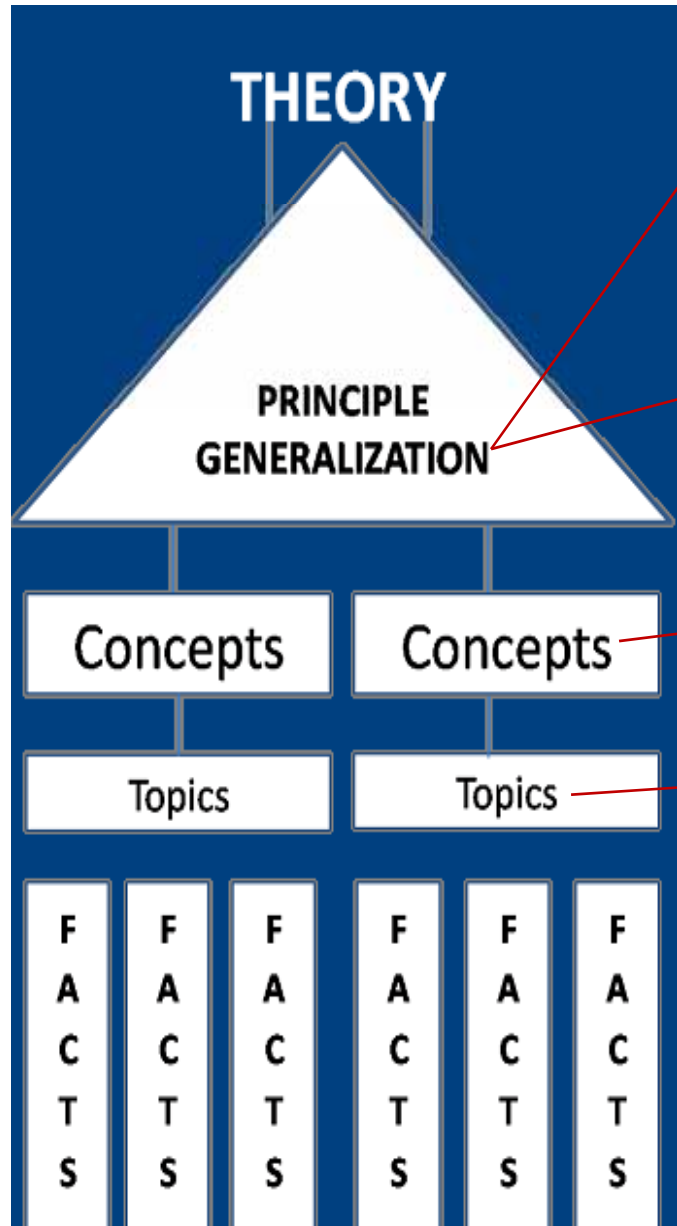
Concepts and generalizations transfer

- allows the brain to make connections
and see patterns.

Develops the intellect to handle a world of increasing complexity and accelerating change.



The Structure of Knowledge



People tend to settle in **geographical areas** that can support their **basic needs**.

Migration may lead to new **opportunities** or greater **freedom**.

- **Migration**
- **Opportunity**
- **Needs**
- **Freedom**

Colonial America

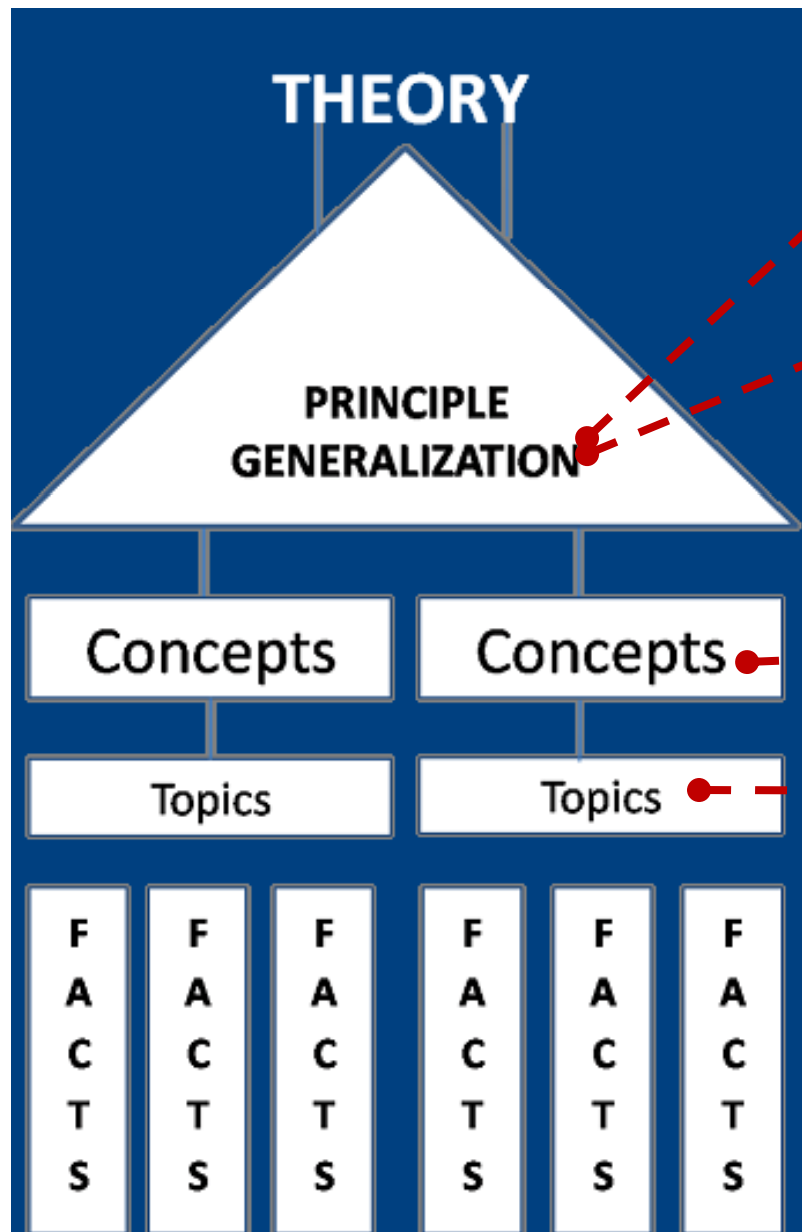
High School Generalizations:

Social Studies (examples)

New technologies and scientific breakthroughs can improve the quality of life--but may also present ethical dilemmas.



CULTURE – Example 4



The Structure of Knowledge

Velocity can be mathematically represented by the **slope** of a **line**.

3

The **slope** of a **graph** at a particular **point** indicates the **instantaneous rate of change**

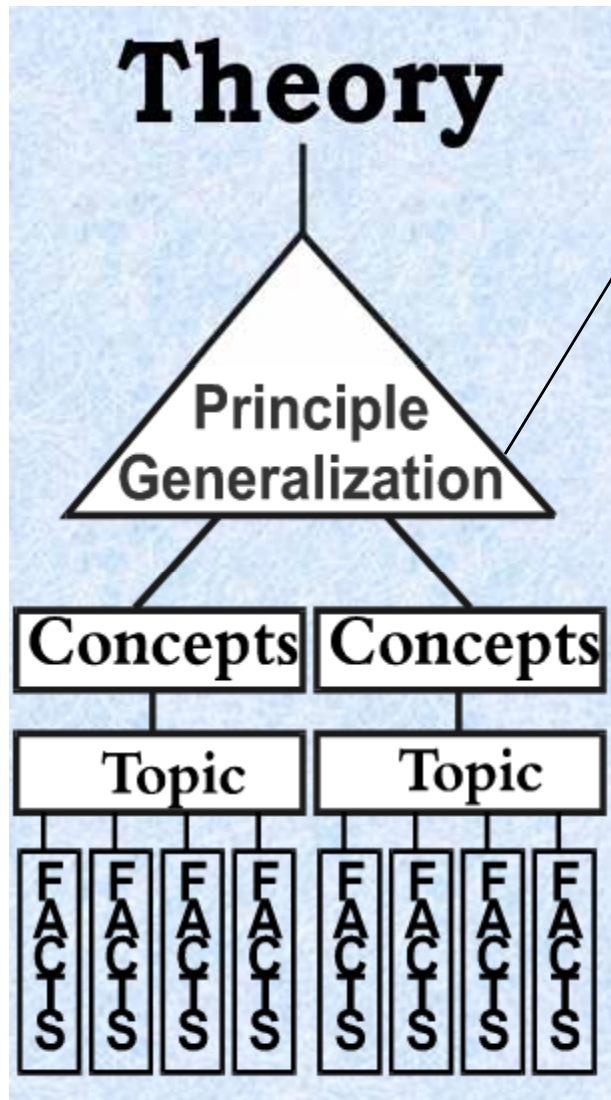
• **slope** • **derivative** • **line** • **graph**

2

Measurement of distance and speed

1

The Structure of Knowledge



Central Idea

The student understands that...*people* develop *economic systems* to exchange *goods* and *services* for *payment*.

Supporting Ideas

- *People* must make *choices* because they cannot *afford* everything they *want*.
- *Costs* rise when *desired goods* are *scarce*.

Money	Goods/ Services	Economic System	Choices	Cost
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Dollars and Sense

3

2

1



Transportation

Concept or Topic?



Intelligence

A concept is an organizing idea;
a mental construct...

Timeless | Universal | Abstract (to different degrees)

Represented by 1 or 2 words | Examples share common attributes

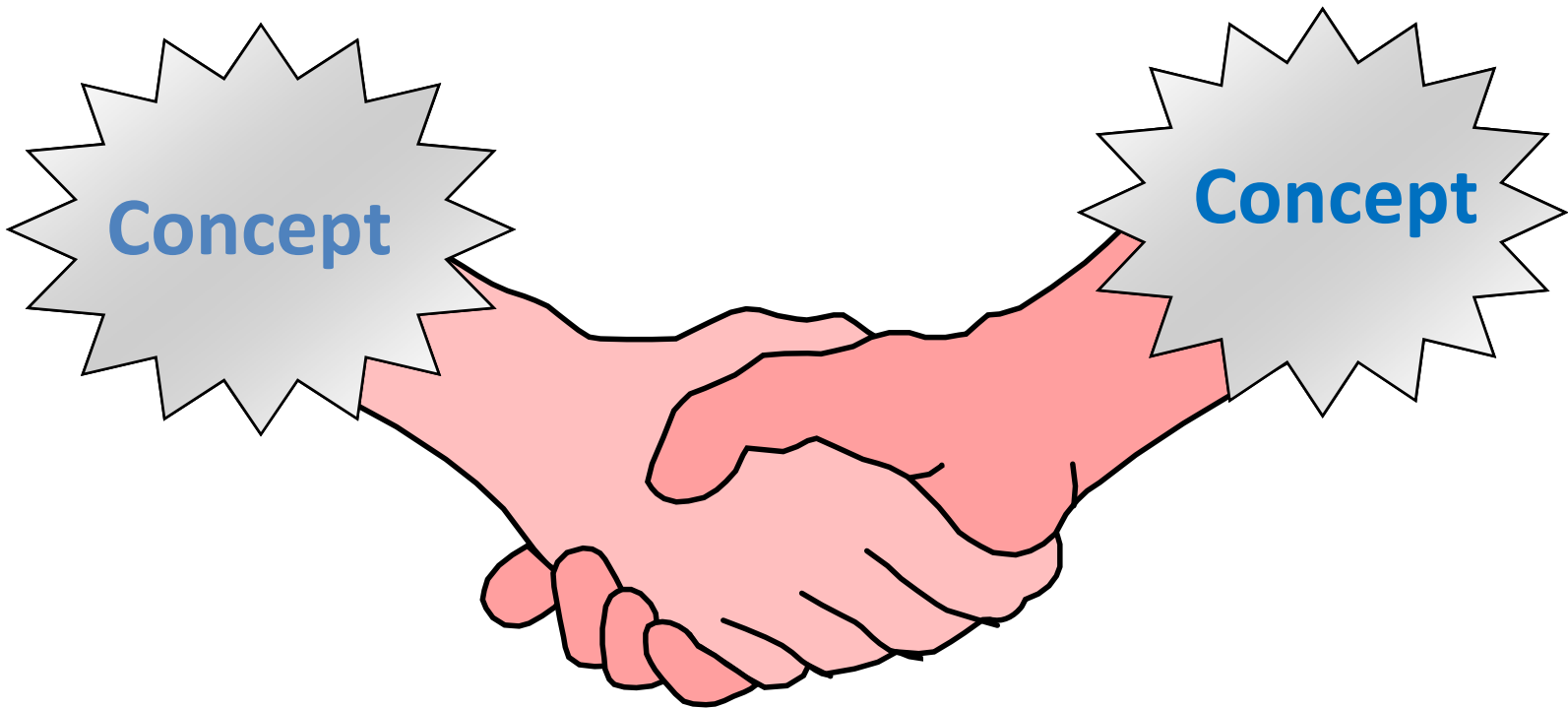
Examples of Subject Area Concepts

Science	Social Studies	Concepts in Text	Writer's Craft	Reader's Craft
Order Organism Population System Change Evolution Cycle Interaction Energy/Matter Equilibrium Habitats	Conflict/Cooperation Opportunity/Cost Populations System Change/Continuity Culture Scarcity Civilization Migration/Immigration Interdependence	Prejudice Perspective Conflict Cooperation Power Relationships Envy Emotions Oppression Influence	Organization Word Choice Context Conventions Fluency Voice Presentation Symbolism Allegory Metaphor Protagonist Antagonist	Inference Context Clues Meaning Paraphrase Summary Text Structure Reading Rate Directionality Self – regulation Imagery Genre Background Knowledge

Which are “macro-concepts?” Which are “micro-concepts?”

GENERALIZATION=
Enduring, Essential Understanding
“Central and Supporting Ideas”

Two or more concepts in a relationship...



- **CONCEPTUAL IDEAS THAT TRANSFER**
- **DEVELOP DEEP UNDERSTANDING**

Scaffolding Thinking to Complex Levels

Economics

Level 3

Nations with a strong economic infrastructure wield greater political power in international relations.

So what is the effect or significance of a strong economic infrastructure for a society?

Level 2

Advances in technology lead to the development of new products and materials which can strengthen the economic infrastructure of a society.

How (or why) do advances in technology impact a society?

Level 1

Advances in technology impact a society.

Scaffolding Thinking to Complex Levels



To develop the intellect and increase motivation for learning, curriculum and instruction must create a “synergy” between the lower (factual) and higher (conceptual) levels of thinking.



**SO THIS IS WHAT
SYNERGISTIC THINKING
FEELS LIKE!**



INTEGRATED THINKING